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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/665,040	09/18/2003	Warren Lin	26571-502	4471

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EXAMINER

BURCH, MELODY M

ART UNIT	PAPER NUMBER
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3683

DATE MAILED: 10/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/665,040

Applicant(s)

LIN, WARREN

Examiner

Melody M. Burch

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MLW

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 September 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 9/18/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the caliper and the pair of braking pads claimed in claim 22 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will

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be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to because in figure 1B “104a” is not pointing to a bottom surface as described in the specification. Also “300” in figure 3A fails to point to a particular object. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled “Replacement Sheet” in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: element 112a mentioned in line 18 of pg. 6, element 308 mentioned in line 3 of pg. 10, element 316 mentioned in line 6 of pg. 10. Corrected drawing sheets in

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compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

5. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: element 118 in figure 1C, 218 in figure 2C, 304a in figure 3C. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

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6. In addition to Replacement Sheets containing the corrected drawing figure(s), applicant is required to submit a marked-up copy of each Replacement Sheet including annotations indicating the changes made to the previous version. The marked-up copy must be clearly labeled as "Annotated Marked-up Drawings" and must be presented in the amendment or remarks section that explains the change(s) to the drawings. See 37 CFR 1.121(d). Failure to timely submit the proposed drawing and marked-up copy will result in the abandonment of the application.

Specification

7. The disclosure is objected to because of the following informalities: in line 2 of pg. 7 or the first instance of "OE" should not be abbreviated. In line 1 of pg. 10 "204a" is described in the embodiment of figures 3A-3C instead of the in the embodiment of figures 2A-2C.

Appropriate correction is required.

Claim Objections

8. Claims 1-29 are objected to because of the following informalities:

- in line 2 from the bottom of claim 1 and claim 14 and in line 4 from the bottom of claim 22 and in line 3 from the bottom of claim 26 "the annular" should be changed to --the second annular-- to maintain consistent terminology;
- in line 1 of claim 5 the phrase "least on" should be changed to --least one--;

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- in line 2 of claim 8 "vehicle;" should be changed to --vehicle.--;
- in line 1 of claim 9 the phrase "first annular" should be changed to --first braking annular--. The remaining claims are objected to due to their dependency from claims 1, 14, 22, and 26. Appropriate correction is required.

Claim Rejections - 35 USC § 112

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10. Claims 5 and 9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Re: claim 5. The phrase "a vented brake rotor" in line 2 is indefinite. It is unclear to the Examiner whether Applicant intends for the brake rotor of claim 5 to be the same or different from that claimed in claim 1.

Re: claim 9. The phrase "the first opening" in line 1 lacks proper antecedent basis.

Claim Rejections - 35 USC § 102

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent

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granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

12. Claims 1, 2, 5, 7-21, 26-29 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent 4913266 to Russell et al.

Re: claims 1, 8, 26. Russell et al. show in figure 2 a brake rotor shown in the area of element 5 comprising a central mounting portion or element shown to the right of hub 1 shown in the area of elements 19 and 25 for mounting the brake rotor on a hub 1, a first annular braking surface to the left of the lead line of number 3 and a second annular braking surface 5, wherein each braking surface includes an inner diameter and an outer diameter, a bridge 9 provided between the central mounting portion and the inner diameter of at least one of the first and the annular braking surfaces, and a plurality of ribs or remaining elements 9 positioned proximate to the bridge.

Re: claim 2. Russell et al. show in figure 2 the limitation wherein the bridge 9 is substantially solid and wherein at least a portion of at least one rib (remaining elements 9) protrudes above a surface (particularly a bottom surface) of the bridge.

Re: claim 5. Russell et al. show in figure 2 the limitation wherein at least one of the plurality of ribs are integral to a side of a flow channel shown between elements 7 of a vented brake rotor.

Re: claims 7, 9. Russell et al. show in figure 2 the brake rotor comprising one or more pairs of openings or areas between elements 7, each pair of openings allowing communication between the first annular braking surface and the second annular braking surface or in an alternate interpretation the one or more pairs of openings may

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be the holes in the ribs 9. In the alternate interpretation the vent would be the space between adjacent elements 7.

Re: claim 10. Russell et al. show in figure 2 the limitation wherein the central mounting portion comprises a hat 19,25 having a plurality of openings 27 for receiving fasteners 17 from the hub, or a plurality of fasteners 17 for fastening a wheel to the hub and rotor combination.

Re: claims 11, 19, 27. Russell et al. show a cover or right most element show above fastener 17 for covering all or a portion of the bridge.

Re: claims 12, 20, 28. Russell et al. show the limitation wherein the cover comprises a circular piece of material having a central opening shown within element 19 corresponding in size to the central mounting portion of the rotor, wherein upon mounting of the cover onto the rotor, the central opening receives the central mounting portion of the rotor as shown in figure 1.

Re: claims 13, 21, 29. Russell et al. show the limitation wherein the cover includes a plurality of fastening openings 27 for receiving fasteners 17.

Re: claim 14. Russell et al. show in figure 2 a brake rotor shown in the area of element 5 comprising a central mounting portion or element shown to the right of hub 1 shown in the area of elements 19 and 25 for mounting the brake rotor on a hub 1, a first annular braking surface to the left of the lead line of number 3 and a second annular braking surface 5, wherein each braking surface includes an inner diameter and an outer diameter, a bridge 9 provided between the central mounting portion and the inner diameter of at least one of the first and the annular braking surfaces, a plurality of ribs or

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remaining elements 9 positioned proximate to the bridge (in an alternate interpretation elements 7 can represent ribs proximate the bridge and the bridge can represent all of elements 9), and a plurality of flow channels shown between elements 7.

Re: claim 15. Russell et al. show in figure 2 the limitation wherein each flow channel includes at least one wall 7.

Re: claims 16 and 17. Russell et al. show in figure 2 in the alternate interpretation the limitation wherein the at least one wall comprises one of the plurality of ribs.

Re: claim 18. Russell et al. show in figure 2 in the alternate interpretation the rotor further comprising a plurality of openings or holes in elements 9 positioned in the bridge.

13. Claims 1, 3, and 4 are rejected under 35 U.S.C. 102(b) as being anticipated by DE-3216108 (DE'108).

Re: claim 1. DE'108 shows in figure 1 a brake rotor 3 comprising a central mounting portion 2 for mounting the brake rotor on a hub, a first annular braking surface and a second annular braking surface, wherein each braking surface includes an inner diameter and an outer diameter, a bridge 27,29 provided between the central mounting portion and the inner diameter of at least one of the first and the annular braking surfaces, and a plurality of ribs 26 positioned proximate to the bridge.

Re: claim 3. DE'108 shows in figure 1 the limitation wherein the bridge includes a plurality of openings or spaces enclosed by elements 27 and element 29.

Re: claims 1 and 4. In an alternate interpretation, DE'108 shows in figure 1 a

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brake rotor 3 comprising a central mounting portion 2 for mounting the brake rotor on a hub, a first annular braking surface and a second annular braking surface, wherein each braking surface includes an inner diameter and an outer diameter, a bridge 26,29 provided between the central mounting portion and the inner diameter of at least one of the first and the annular braking surfaces, and a plurality of ribs 27 positioned proximate to the bridge.

14. Claims 1 and 6 are rejected under 35 U.S.C. 102(e2) as being anticipated by US Patent 6536564 to Garfinkel et al.

Re: claim 1. Garfinkel et al. show in figure 6 a brake rotor 110 comprising a central mounting portion 124 for mounting the brake rotor on a hub, a first annular braking surface and a second annular braking surface, wherein each braking surface includes an inner diameter and an outer diameter, a bridge 122 provided between the central mounting portion and the inner diameter of at least one of the first and the annular braking surfaces, and a plurality of ribs 144 positioned proximate to the bridge.

Re: claim 6. Garfinkel et al. show in figure 6 the limitation wherein either or both of the annular braking surfaces includes one or more slots 117.

Claim Rejections - 35 USC § 103

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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16. Claims 22-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Russell et al. in view of US Patent 6367598 to Sprozynski.

Re: claim 22. Russell et al. show in figure 2 a braking system comprising a brake rotor comprising: having a central mounting portion or element shown to the right of hub 1 shown in the area of elements 19 and 25 for mounting the brake rotor on a hub 1, a first annular braking surface to the left of the lead line of number 3 and a second annular braking surface 5, wherein each braking surface includes an inner diameter and an outer diameter, a bridge 9 provided between the central mounting portion and the inner diameter of at least one of the first and the annular braking surfaces, and a plurality of ribs or remaining elements 9 positioned proximate to the bridge.

Russell et al. reference is silent with regards to the limitation of a caliper and a pair of braking pads.

Sporzynski teaches in figure 1 the use of a braking system comprising a caliper 12, a brake rotor 52, and a pair of braking pads 36,40.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the braking system of Russell et al. to have included a caliper and braking pads, as taught by Sprozynski, in order to provide a means of braking the rotor.

Re: claim 23. Russell et al. show a cover or right most element shown above fastener 17 for covering all or a portion of the bridge.

Re: claim 24. Russell et al. show the limitation wherein the cover comprises a circular piece of material having a central opening shown within element 19

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corresponding in size to the central mounting portion of the rotor, wherein upon mounting of the cover onto the rotor, the central opening receives the central mounting portion of the rotor as shown in figure 1.

Re: claim 25. Russell et al. show the limitation wherein the cover includes a plurality of fastening openings 27 for receiving fasteners 17.

Conclusion

17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US Patents 6035978 to Metzen et al. and 6568512 to Tolani teach the use of rotors having a central mounting portion, a bridge, and ribs.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melody M. Burch whose telephone number is 703-306-4618. The examiner can normally be reached on Monday-Friday (7:30 AM-4:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Lavinder can be reached on 703-308-3421. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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October 18, 2004

Melody M. Bruch
10/18/04